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(54) Title: A NOVEL CONOTOXIN MODULATING SODIUM CHANNELS

(57) Abstract: A 26 residue peptide (Am2766) with the sequence CKQAGESCDIFSQNCCVGTCAFICIE-NH<sub>2</sub> has been isolated and purified from the venom of the molluscivorous snail, *Conus amadis*, collected of the southeastern coast of India. Chemical modification and mass spectrometric studies establish that Am2766 has three disulfide bridges. Cterminal amidation has been demonstrated by mass measurements on the C-terminal fragments obtained by proteolysis. Sequence alignments establish that Am2766 belongs to the  $\delta$ -conotoxin family. Am2766 inhibits the decay of the sodium current in brain rNav1.2a voltage-gated Na<sup>+</sup> channel, stably expressed in Chinese hamster ovary (CHO) cells. Unlike  $\delta$ -conotoxins have previously been isolated from molluscivorous snails, Am 2766 inhibits inactivation of mammalian sodium channel.



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